



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Richard Onstott  
Serial Number: 10/669,974  
Filed: September 24, 2003  
For: Air Ventilation Control System

Art Unit: 3744

**In the Specification**

Kindly amend the specification as follows:

Kindly substitute the following paragraphs for the originals:

On page 12, lines 1-8:

Figure 1 shows the ability to operate the system in two basic modes. The first mode is the standard operating mode commonly used today. In this mode, the main fan 20 pulls air from the interior of the building through the return air ~~duct~~ filter 13, where it then flows back into the building through the filter element and grill of the ~~output grill~~ filter 14. In this case, the dampers 16, 17, 18 and 19 are closed.

In the second mode of operation, the new air intake system is used. In this case, dampers 16, 17, 18, and, if desired 19 are opened. In this system, the main fan 20 pulls air in through the return air ~~duct~~ filter 13.

On page 12, lines 16-21:

An in-duct smoke detector 21 can be placed in the ductwork on the intake side as shown. In addition, a carbon monoxide (CO) detector 22, which is not part of the ductwork system, can be installed and its contacts placed in the control circuit (as discussed below). Thus, as shown on figure 2, the CO

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detector has a set of contacts 22-1 that overrides the timing portion of the circuit to cause fresh air to be introduced into the building.

On page 13, lines 9-12:

At the top of the circuit is a set of switch contacts from the in-duct smoke detector. If it detects smoke, these contacts open and all of the system is shut down. Next, is a timer circuit. This consists of a master on off switch 22 23a, a timer 23 that has a timing element (discussed below), and an associated set of contacts 24.

On page 16, lines 1-4:

intake air filter, an intake air fan, and a duct ~~that moves the air through~~ which air flows to the furnace. Within the duct, there is a damper to control the flow of air. As in the embodiment above, an in-duct smoke detector may be placed within the duct as a safety measure.

On page 16, lines 14-20:

Below those components are a contact 39-1 from relay 39 and a contact 50-1 from relay 50. Either of these contacts operates an air intake fan 40. The air intake fan 40 has a speed control switch 41 in the circuit as shown. Finally, at the bottom of the circuit is a damper control switch 42 that controls the damper motor 43. The switch 42 has ~~two~~ three modes: open, in which the

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damper is open continuously, ~~or~~ "off", in which the damper remains closed, or auto, in which the damper is controlled by the contacts 39-1 and 50-1, ~~which~~ to operate in conjunction with the air intake fan 40.

On page 17, lines 18-21:

The other pole of the room temperature fan switch 51 is labeled auto. In this mode, the blower runs only during heating cycles, as its control is operated only when the thermostat calls for heat. The room temperature thermostat fan switch ~~64-51~~ is a switch located in many thermostats.

On page 20, lines 5-10:

These isolation switches are designed to turn these fans on or off to permit fresh air intake without preheating or precooling or to disable the HRV for maintenance or when fresh air intake is not desired. ~~The fan speed control is eliminated from this circuit. A timer bypass switch 75 has been added as shown. Note also that the bypass switch is ganged with components 35 and 35-a. In this way, if the bypass is opened the timer is disconnected and the relay 39 is continuously activated. The HRV can be run continuously and independent of the timer if bypass switch 35-a is closed to energize relay 39 closing contacts 39-1 to provide the path.~~ All other aspects of the system remain the same as shown in figs 5 and 6.

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On page 20- line 21, to page 21, line 4:

If the room thermostat calls for heat during a time that air is being circulated, the furnace blower may increase speed (if so programmed) during the heating cycle, after which it sets back and continues air circulation for the set-time remaining. If the thermostat calls for heat when the timer is quiescent, the timer is overridden and the blower operates. If the thermostat shuts down while the timer is still in the quiescent period, the blower stops operating.

On page 21, lines 5-11:

Figure 10 is a detail of the front panel controls of the control panel 80 (fig. 1). These controls are as follows. At the top is the Furnace Blower Control Switch (e.g., 52 on figure 4). This switch selects two different controlling units: first is the timer, which places the furnace Indoor blower (e.g., 40) under control of the timer. [[I]] In this position, as long as the room thermostat fan switch is set to "on", programmed air circulation takes place in accordance with the timer settings. The room thermostat controls heating in conjunction with the timed blower operations (as discussed above).

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On page 21, lines 13-21:

With the switch set to the thermostat position, the room thermostat takes full control of furnace for all functions, e.g., burner operation during calls for heat, etc. ~~With room thermostat fan switch control of furnace for all functions, e.g., burner operation during calls for heat, etc.~~ With room thermostat fan switch 51 set to "on", the furnace blower would run continuously but for intervention by the system's timer which limits introduction of filtered outside air to set periods and during heating cycles. With room thermostat fan switch 51 set to "auto", the furnace blower 40 runs only during the heating cycle, with filtered outside air added only during the cycle.

The bypass switch 35 is used to over-ride the system control unit. If the switch 35 is in the "on timer" (normal) position, the timer is used to ~~operation~~ operate the damper.

Kindly amend the abstract as follows:

A system that allows fresh air to be brought into a furnace as part of the return air circuit. This not only helps to replace stale air within a home, it also provides adequate air supplies to establish enough positive pressure within the dwelling to prevent air infiltration around windows, doors, forced

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air registers and around ~~room~~ perimeters of rooms along the baseboards. The system consists of a furnace that has a return air supply duct, an intake louver and filter for bringing fresh air into the system, an intake fan mounted to the intake, an intake duct that brings the fresh air from the intake louver to the furnace and a motorized damper, installed in the intake duct, to control the flow of air. These components are controlled by a control panel that works with the thermostat and furnace controls to operate the intake fan and damper as for optimum operation.

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**In the Drawings**

Applicant has attached four proposed drawing corrections, marked in red. The first is Figure 1, which includes a reference numeral "14" for the duct as shown. This numeral is described in the specification, but was inadvertently left off the drawing.

The second correction is on Figure 4. In this figure, the labels on switch 51 were misplaced. The red labels indicated their proper location.

The third amendment is on Figure 6. Here, the labels were also inadvertently misplaced on the figure.

The fourth amendment amended figure 9 to remove a bypass switch 75, which was placed on the drawings in error.

Note that the corrections to figures 1, 4, 6, and 9 do not include new matter because the wiring shown in the diagrams is correct and that the switches are wired with the functions as now labeled. The only difference is that the drawings now reflect the reality as described in the specification and shown in the wiring diagrams.